

## Message Text

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ACTION EUR-12

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CIEP-02 COME-00 DODE-00 EB-07 FPC-01 H-02 INR-07

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FM AMEMBASSY BELGRADE

TO SECSTATE WASHDC 6196

INFO AMCONSUL ZAGREB

UNCLAS SECTION 1 OF 2 BELGRADE 2309

DEPT PASS COMMERCE FOR CMM TURNER, BIC/OIM

E.O. 11652: NA

TAGS: ENRG ETRD BBSR BFOL BEXP YO

SUBJ: YUGOSLAV ELECTRIC POWER INDUSTRY: PART A, OVERVIEW

RECOMMEND INCLUSION IN COMMERCE FMR SERVICE

SUMMARY: YUGOSLAV OFFICIALS GIVING TOP PRIORITY TO DEVELOPMENT OF THE ELECTRIC POWER INDUSTRY. THEY TAKING MEASURES TO REVERSE UNFAVORABLE GROWTH TREND WHICH HAS CAUSED INDUSTRY TO FALL BEHIND GROWTH OF THE ECONOMY AND ITS NEEDS FOR ELECTRICITY. PLANS CALL FOR CHANNELING 36 PERCENT OF TOTAL INDUSTRIAL INVESTMENT INTO ENERGY PROJECTS SO AS TO DOUBLE EXISTING GENERATING CAPACITY AND COMPLETE TRANSMISSION NETWORKS BY 1980. SUCH A LEVEL OF INVESTMENT OVER THE NEXT TEN YEARS WILL LEAD TO RAPID EXPANSION OF GENERATING CAPACITY BASED PRIMARILY ON DOMESTIC COAL RESERVES. US AND OTHER FOREIGN MANUFACTURERS HAVE EXCELLENT PROSPECTS OF SUPPLYING A MAJOR PORTION OF EQUIPMENT NEEDS, ESPECIALLY HIGH TECHNOLOGY AND HIGH CAPACITY EQUIPMENT. CONTACTS SHOULD BE MADE NOW FOR PROJECTS PLANNED THROUGH 1985. TO MAXIMIZE THEIR COMPETITIVE POSITION, US FIRMS WILL NEED TO BE FLEXIBLE IN ARRANGING FOR FINANCING, COOPERATION WITH YUGOSLAV FIRMS, AND OFFSET  
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PURCHASES. END SUMMARY.

PART A. THE YUGOSLAV ELECTRIC POWER INDUSTRY

1. THE ELECTRIC POWER INDUSTRY PROVIDED ABOUT 7 PERCENT OF TOTAL INDUSTRIAL PRODUCTION AND EMPLOYED NEARLY 3 PERCENT OF THE YUGOSLAV LABOR FORCE IN 1975. BECAUSE OF ITS ROLE AS AN ESSENTIAL ENERGY SOURCE, YUGOSLAV OFFICIALS HAVE GIVEN TOP PRIORITY TO ITS DEVELOPMENT IN THEIR PLANS AND ARE DETERMINED TO REVERSE RECENT UNFAVORABLE TREND IN ITS GROWTH.

2. DEVELOPMENT OF THE ELECTRIC POWER INDUSTRY HAS FALLEN BEHIND THAT OF THE ECONOMY AS A WHOLE. WHILE CONSUMPTION OF ELECTRICAL ENERGY HAS GROWN AN AVERAGE 11 PERCENT ANNUALLY OVER THE PAST FIVE YEARS, PRODUCTION OF ELECTRICITY HAS GROWN ONLY 10 PERCENT. THIS HAS SEVERELY STRAINED GENERATING CAPACITY WHICH HAS INCREASED LESS THAN 6 PERCENT ANNUALLY. INVESTMENTS IN POWER SYSTEMS, WHILE INCREASING SLIGHTLY IN ABSOLUTE TERMS, HAVE DECLINED FROM 18.5 PERCENT OF TOTAL INDUSTRIAL INVESTMENT IN 1971 TO ONLY 15 PERCENT IN 1975. PROBLEMS OF THE SUPPLY OF ELECTRIC POWER HAVE BEEN AGGRAVATED BY INEFFICIENCIES IN TRANSMISSION AND DISTRIBUTION SYSTEMS WHICH HAMPERED DELIVERY OF ENERGY TO CONSUMERS AND CONTRIBUTED TO TRANSMISSION AND DISTRIBUTION LOSSES AVERAGING MORE THAN 10 PERCENT OF AVAILABLE ENERGY. ALL THIS HAS CAUSED YUGOSLAVIA TO BECOME A NET IMPORTER OF ELECTRICAL ENERGY AND TO ENDURE POWER SHORTAGES AND REDUCTIONS OF INCREASING SEVERITY AND FREQUENCY.

3. TO REMEDY THIS SITUATION, YUGOSLAV OFFICIALS PLAN TO DEVELOP THE ELECTRIC POWER INDUSTRY MORE RAPIDLY THAN THE OTHER SECTORS OF THE ECONOMY. COMMUNITIES OF INTEREST FORMED AT FEDERAL AND REPUBLICAN LEVELS ARE STRIVING TO COORDINATE PROJECT DEVELOPMENT AND ACCUMULATE FUNDS NEEDED FOR CONSTRUCTION AND REPAYMENT OF FINANCING. ACCORDING TO PLANS, INVESTMENTS IN ELECTRICAL ENERGY PROJECTS WILL ACCOUNT FOR 36 PERCENT OF TOTAL INVESTMENT IN INDUSTRY OVER THE NEXT FIVE YEARS. INVESTMENT PROJECTS, PLANNED AND UNDER WAY, ARE INTENDED TO DOUBLE PRESENT GENERATING CAPACITY AND COMPLETE A COUNTRYWIDE TRANSMISSION NETWORK BY 1980.

4. FOR MANY OF THESE PROJECTS, CONTRACTS HAVE ALREADY BEEN SIGNED AND EQUIPMENT PURCHASES ARRANGED. INVESTMENT EXPENDITURES, UNCLASSIFIED

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HOWEVER, WILL CONTINUE AT AN EQUAL OR HIGHER LEVEL BEYOND 1980 AND PLANNING IS UNDER WAY FOR PROJECTS THROUGH 1985. BECAUSE OF THE LONG LEAD TIME REQUIRED, CONTACTS ARE BEING INITIATED WITH POTENTIAL SUPPLIERS AND CONTRACTS WILL BE NEGOTIATED IN THE NEAR FUTURE.

5. THE YUGOSLAV ELECTRIC UTILITIES: THE UTILITIES ARE, BY FAR, THE MOST IMPORTANT ASPECT OF YUGOSLAVIA'S ELECTRIC POWER

INDUSTRY. WITH NEARLY 93 PERCENT OF TOTAL GENERATING CAPACITY, THEYPRODUCE MORE THAN 94 PERCENT OF THE ELECTRICITY IN YUGOSLAVIA.

6. THE ROLE OF THE UTILITIES WILL CONTINUE TO GROW. PROJECTS, PLANNED AND UNDER WAY, ARE EXPECTED TO DOUBLE GENERATING CAPACITY TO 18,000 MW BY 1980. THESE INCLUDE 20 HYDROELECTRIC PLANTS TOTALLING 3400 MW, 25 THERMOELECTRIC PLANTS TOTALLING 5000 MW AND ONE NUCLEAR PLANT, NOW UNDER CONSTRUCTION OF 632 MW.

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TOTAL INVESTMENTS IN THESE PROJECTS (1974 TO 1980) MAY REACH \$3.5 BILLION.

7. AT THE SAME TIME, YUGOSLAVIA IS EXPANDING ITS TRANSMISSION NETWORK. BY 1980 THE 380 KILOVOLT NETWORK, NEARLY 5000 KILOMETERS LONG, IS EXPECTED TO LINK ALL IMPORTANT PRODUCERS AND CONSUMERS. CONSTRUCTION OF THE FIRST PHASE HAS BEEN PARTLY FINANCED BY A \$70 MILLION IBRD CREDIT AND ADDITIONAL IBRD CREDITS ARE ANTICIPATED FOR THE SECOND PHASE. FURTHER CONSTRUCTION OF 220 AND 110 KILOVOLT LINES WILL SUPPLEMENT THE NETWORK AND ADDITIONAL DISTRIBUTION LINES WILL TIE IN TO CONSUMERS. TOTAL INVESTMENTS IN THIS AREA MAY REACH \$2.5 BILLION.

8. RAPID EXPANSION ON THE BASIS OF DOMESTIC ENERGY SOURCES WILL CONTINUE THROUGH THE NEXT TEN YEARS. YUGOSLAVIA'S RIVERS HAVE A POTENTIAL CAPACITY TO SUPPORT NEARLY 18,000 MW OF POWER PLANTS. COAL RESERVES, PRIMARILY LIGNITE, COULD FUEL MORE THAN 40,000 MW IN THERMOELECTRIC PLANTS. OIL-FIRED PLANTS WILL BE LOCATED NEAR REFINERIES WHERE THEY CAN UTILIZE RESIDUAL FUEL OILS. GAS TURBINE PLANTS WILL PLAY A SMALLER ROLE USING MOSTLY DOMESTIC GAS, UNTIL THE DEVELOPMENT OF COMMERCIAL COAL GASI-  
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FICATION, AN AREA OF GREAT INTEREST TO THE YUGOSLAVS. WITH THE ABUNDANCE OF HYDRO AND FOSSIL FUEL POTENTIAL, NUCLEAR PLANTS WILL PROBABLY BE LIMITED TO ONE ADDITIONAL FACILITY IN THE 1980-1985 TIME FRAME.

9. INDUSTRIAL USERS OF POWER GENERATION EQUIPMENT: INDUSTRIAL FACILITIES PROVIDE A SMALL MARKET FOR POWER GENERATION EQUIPMENT. THEY CURRENTLY PRODUCE LESS THAN 6 PERCENT OF YUGOSLAVIA'S ELECTRICAL ENERGY AND THEIR SHARE IS STEADILY DECLINING. MOST INDUSTRIAL GENERATORS ARE LOCATED IN PLANTS WHERE STEAM IS AN ESSENTIAL INGREDIENT OR BY PRODUCT OF NORMAL PRODUCTION. AUXILIARY OR STANDBY GENERATORS HAVE LIMITED APPLICATION EXCEPT IN FACILITIES SUCH AS HOSPITALS AND AIRPORTS WHERE BACKUP POWER SOURCES ARE CRITICAL.

10. YUGOSLAV MANUFACTURERS OF ELECTRIC ENERGY SYSTEMS EQUIPMENT: YUGOSLAVIA HAS A RATHER HIGHLY DEVELOPED INDUSTRY MANUFACTURING POWER GENERATION, TRANSMISSION AND DISTRIBUTION EQUIPMENT. ITS PRODUCTS COVER A FAIRLY COMPLETE RANGE OF EQUIPMENT FOR THE ELECTRIC POWER INDUSTRY INCLUDING GENERATION EQUIPMENT UP TO 200 MW CAPACITY AND TRANSMISSION AND DISTRIBUTION EQUIPMENT UP TO 380 KILOVOLT AND 400 MVA CAPACITIES.

11. ALTHOUGH YUGOSLAV MANUFACTURERS ARE SIGNIFICANT EXPORTERS OF ELECTRIC POWER EQUIPMENT, SEVERAL FACTORS WILL LIMIT THEIR ROLE IN SUPPLYING EQUIPMENT FOR THE EXPANSION OF THE ELECTRIC ENERGY SYSTEM. MUCH OF THE EQUIPMENT ENVISIONED BY EXPANSION PLANS EXCEEDS THE SIZE OF EQUIPMENT PRODUCED IN YUGOSLAVIA. FOR OTHER EQUIPMENT, PRODUCTION CAPACITIES OF DOMESTIC MANUFACTURERS ARE NOT SUFFICIENTLY LARGE TO MEET REQUIRED VOLUME AND DELIVERY SCHEDULES. FINALLY, YUGOSLAV MANUFACTURERS ARE HAMPERED BY THEIR LIMITED ABILITY TO PROVIDE CREDITS FOR DOMESTIC SALES.

12. YUGOSLAV BUSINESSMEN HAVE RECOGNIZED THESE LIMITATIONS. AN AGREEMENT SIGNED BETWEEN JUGEL (ASSOCIATION OF ELECTRIC UTILITIES) AND JUMEL (ASSOCIATION OF EQUIPMENT MANUFACTURERS) ANTICIPATES THAT YUGOSLAV MANUFACTURERS WILL SUPPLY ABOUT 45 PERCENT OF THE EQUIPMENT NEEDS OF THE UTILITIES. THIS SHARE WILL VARY FROM ABOUT 25 PERCENT OF THERMOELECTRIC EQUIPMENT NEEDS TO

75 PERCENT OF HYDROELECTRIC AND TRANSMISSION EQUIPMENT.

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13. ALTHOUGH YUGOSLAV MANUFACTURERS PURCHASE EQUIPMENT AND PARTS TO COMPLETE THEIR OWN PRODUCTION, THEY PROVIDE GREATER OPPORTUNITIES TO US FIRMS FOR SALE OF TECHNOLOGY, INDUSTRIAL COOPERATION AND JOINT VENTURES AND AS PROSPECTIVE PARTNERS FOR COOPERATION IN PROJECTS IN YUGOSLAVIA AND ABROAD.

14. PART B, OPPORTUNITIES, AND PART C, STANDARDS AND CONTROLS, FOLLOW BY SEPTELS. SWEITZER

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